The ARRIVE Guidelines (Animal Research: Reporting *In Vivo* Experiments)

First-time evaluation of ascending compared to rectangular transthoracic defibrillation waveforms in modelled out of hospital cardiac arrest

	Item	Recommendation	Section/Paragraph
TITLE	**1**	Provide as accurate and concise a description of the content of the article as possible.	Title
ABSTRACT	**2**	Provide an accurate summary of the background, research objectives, including details of the species or strain of animal used, key methods, principal findings and conclusions of the study.	Abstract
INTRODUCTION			
- **Background**	**3**	a. Include sufficient scientific background (including relevant references to previous work) to understand the motivation and context for the study, and explain the experimental approach and rationale.	Paragraphs 1-2
		b. Explain how and why the animal species and model being used can address the scientific objectives and, where appropriate, the study's relevance to human biology.	Online Supplement: "Expanded Methods" > Animal preparation > Paragraph 1
- **Objectives**	**4**	Clearly describe the primary and any secondary objectives of the study, or specific hypotheses being tested.	Paragraphs 4-5
METHODS			
- **Ethical statement**	**5**	Indicate the nature of the ethical review permissions, relevant licences, and national or institutional guidelines for the care and use of animals, that cover the research.	Paragraph 1
- **Study design**	**6**	For each experiment, give brief details of the study design.	Paragraph 2, Online supplement: "Expanded methods"
- **Experimental procedures**	**7**	For each experiment and each experimental group, including controls, provide precise details of all procedures carried out.	Animal preparation, Experimental protocol, more detailed: Online supplement "Expanded Methods"

-	**Experimental animals**	**8**	a. Provide details of the animals used, including species, strain, sex, developmental stage (e.g. mean or median age plus age range) and weight (e.g. mean or median weight plus weight range). b. Provide further relevant information such as the source of animals.	Animal preparation, more detailed: Online supplement "Expanded Methods"
-	**Housing and husbandry**	**9**	Provide details of: a. Housing; type of cage or housing; bedding material; number of cage companions. b. Husbandry conditions (light/dark cycle, temperature, access to food and water). c. Welfare-related assessments and interventions that were carried out prior to, during, or after the experiment.	Online Supplement "Expanded Methods"
-	**Sample size**	**10**	a. Specify the total number of animals used in each experiment, and the number of animals in each experimental group. b. Explain how the number of animals was arrived at. Provide details of any sample size calculation used.	Paragraph 2 Statistical Analysis > Paragraph 1
-	**Allocating animals to experimental groups**	**11**	Give full details of how animals were allocated to experimental groups, including randomisation or matching if done.	Paragraph 2, Online supplement "Expanded Methods"
-	**Experimental outcomes**	**12**	Clearly define the primary and secondary experimental outcomes assessed	Primary outcome "first shock success": Measurement protocol > Paragraph 4. Secondary outcomes: Measurement protocol > Paragraphs 4-7.

- **Statistical methods**	**13**	a. Provide details of the statistical methods used for each analysis. b. Specify the unit of analysis for each dataset (e.g. single animal, group of animals, single neuron). c. Describe any methods used to assess whether the data met the assumptions of the statistical approach.	Statistical Analysis
RESULTS			
- **Baseline data**	**14**	For each experimental group, report relevant characteristics and health status of animals (e.g. weight, microbiological status, and drug or test naïve) prior to treatment or testing.	Methods > Animal preparation > Paragraph 1
- **Numbers analyzed**	**15**	a. Report the number of animals in each group included in each analysis. Report absolute numbers (e.g. 10/20, not 50%). b. If any animals or data were not included in the analysis, explain why.	Success rates > Paragraphs 1-2, Table 4, Online supplement: Supplemental table 1
- **Outcomes and estimation**	**16**	Report the results for each analysis carried out, with a measure of precision.	Results, Tables 1-4, Online supplement: Supplemental table 1
- **Adverse events**	**17**	a. Give details of all important adverse events in each experimental group. b. Describe any modifications to the experimental protocols made to reduce adverse events.	Paragraph 4 not applicable

DISCUSSION				
-	**Interpretation/scientific implications**	**18**	a. Interpret the results, taking into account the study objectives and hypotheses, current theory and other relevant studies in the literature.	Throughout
			b. Comment on the study limitations including any potential sources of bias, any limitations of the animal model, and the imprecision associated with the results.	Paragraphs 1 and 4, Limitations, Conflicts of Interest
			c. Describe any implications of your experimental methods or findings for the replacement, refinement or reduction (the 3Rs) of the use of animals in research.	not applicable
-	**Generalisability/translation**	**19**	Relevance to human biology.	Throughout, Limitations
-	**Funding**	**20**	List all funding sources (including grant number) and the role of the funder(s) in the study.	Acknowledgements